Ilse Kleemann, Frühe Bewegung. Untersuchungen zur archaischen Form bis zum Aufkommen der Ponderation in der griechischen Kunst. Einführung und Überblick 1. Grundzüge der Anlage von Bewegung sowie praktischer Teil: Arbeitsweise und Hilfsmittel. Verlag Philipp von Zabern, Mainz 1984. XV, 213 pages, 84 text illustrations and 76 photographs on 68 plates. Portfolio with 42 'Beilagen'.

It will be difficult to do justice to the author's work within the compass of this review. To begin with, this is only the first in a series of four projected volumes, and as such it is meant as introductory; only representative examples are discussed, and the methods by which the research was carried out. Moreover, one cannot fail to be impressed by the accuracy, the patience and the dedication with which the author has labored at her task since 1964, measuring, photographing and drawing a great number of archaic statues. Yet some lingering doubts remain as to the validity of her conclusions, or rather, as to the ultimate usefulness of this endeavor in proportion to the time and effort expended.

The research began as an attempt to write the history of the classical contrapposto from its inception to its end, but it soon shifted to a thorough investigation of the premises for this distinctive form of ponderation – thus, to a study of archaic movement. At first, only kouroi were examined, with simple measuring devices such as plumb line and rulers. As the work progressed, it also expanded to encompass virtually every form of archaic statuary, including some types of architectural sculpture (e. g., akroteria), reliefs, and vessel attachments (p. 117). At the same time, the measuring methods became also more sophisticated and numerous, although the author never resorted to the use of mechanical/scientific apparatus. The analysis

began with direct observation and measuring of original works; in some cases, as new techniques were developed and fresh insights were obtained, the same pieces were examined a second time. Results were then checked and refined against the casts of the Akademisches Kunstmuseum in Bonn. Preparations for publication started in 1981, and this first volume, although officially dated 1984, appeared only the following Spring.

The author tries throughout her text to achieve complete clarity of exposition, and thus promote belief in the validity of her approach and conclusions. She is fully aware that modern conceptions of movement differ greatly from those of the sixth century B. C. (although she first reached an understanding of their formulas by studying Rodin's portraits of Balzac in Paris!); she therefore strives to make the archaic conventions as explicit as possible through step-by-step diagrams, explanations and a careful choice of terms. As she writes carefully, so she expects the reader to pay close attention to her argument (p. 12); to facilitate this task, she provides frequent outlines of whatever discussion is to follow, and almost as often summarizes results at the end of each section and sub-section, unafraid of great repetition. There are also overviews of the layout of future volumes, and the very detailed table of contents for Book I (pp. v–vii) greatly facilitates the retrieval of information, obviating the need for an index. Typographical design (italics, insets, etc.) adds clarity to the presentation, and the photographs are excellently reproduced.

The author sees archaic art as poised at the end of the great 'frontal' cultures of antiquity and before the inception of that true, free movement which it had helped to introduce (p. 220). She defines archaic sculptural movement as different from an organic phenomenon, but as based on the deliberate violation of the Law of Frontality by means of minor variations in symmetry, which result in asymmetrical halves of the human figure. These deviations are rendered with 'kleine Werte', an expression that recalls the παρὰ μικρὸν in Philon's passage (Mechan. Synt. 4,1) often quoted in connection with the Canon of Polykleitos. Although the author does not make this correlation herself, it provides nonetheless some justification to believe that the ancient master was conscious of the effect minor deviations from the norm could produce on the viewer; the author does however cite architectural refinements (pp. 5 and 16), which she considers comparable but different, in that the sculptural rendering has as its sole aim that of conveying movement. Such movement remains nevertheless 'hidden' ('heimlich') and can only be perceived either unconsciously or through close observation and measuring. The author's goal is to make it explicit through her photographs and contour sheets.

An archaic statue is bound by the four-sidedness of its conception and the perpendicularity of its coordinates – the author uses the term 'orthogonality', which sounds difficult to English ears but cannot be readily translated without loss of meaning. Any expression of movement, therefore, must be effected within the confines of such structural principles, and cannot consist simply in the carving of the left leg forward, as it occurs in the kouroi. By slightly altering the dimensions of one half of the composition, by pushing some anatomical features forward and slanting others away from the vertical plane, the sculptor achieves dissimilarity and therefore directional movement. Because these deviations produce two asymmetrical halves, the author considers the result a composite statue, and therefore speaks of 'Komposit-Prinzip' and 'Komposit-Komposition' (pp. 17–19; 62–65).

In general definition, the half of the figure toward the direction of movement (the 'nearer side', 'Nebenseite') is rendered as narrower, closer to the vertical, and set slightly back from the frontal plane, as contrasted with the other half (the 'main side', 'Hauptseite'), which is broader, fuller, projecting slightly forward. Since in a kouros the left leg forward imparts the primary direction of movement, the proper right half is usually broader, the proper left narrower and sharper (pp. 60–61); from the back view, the left gluteus shows an oblique contour expanding out; the right gluteus has instead a vertical arrangement (pp. 89 and 143). This particular rendering is termed single or simple movement ('einfache Bewegung'). It can be observed – and measured – on complete statues as well as on fragments, such as torsos or single heads. Here, three examples are given: a kouros head in Leiden, the so-called Dame d'Auxerre, and the kouros torso in Cleveland. Each part of a figure possesses however its own directional movement, which usually agrees with that of the whole; thus the author distinguishes between a 'basic orientation' ('in der Grundform') and one in-situ, when the specific part is considered in its relationship to the complete figure (pp. 28–29; 131–132). In early statues, where tresses on the chest virtually clamp the head to the shoulders, the rendering of such movement was more difficult, but could later develop into a subtler strengthening of the directional shift exhibited by torso and legs (p. 45; cf. fig. 8 on p. 34).

Yet movement, the author finds, depends on motif; a kouros, with empty hands stretched along the sides, can only have the single motif of the advancing left leg – hence its various parts are distorted to suggest movement to its left. But figures with only one motif, and therefore single movement, are rare; more frequent are figures with two motifs, which therefore should incorporate double movement ('doppelte Bewegung'). This is indeed found to be the case (p. 111).

Double movement is achieved when certain features are rendered to convey movement in one direction, but others suggest the opposite. In a head, for instance, the proper right half may be narrower and straighter, thus suggesting movement to its right, but the facial features of that same half may lie somewhat forward of those on the proper left, thus suggesting movement to the left (cf. diagram fig. 19a–b on p. 75; see also figs. 31a–d on p. 104). In a torso, front and back may show a strong turn to the proper left, while the sides may correspond to a right turn (see fig. 25a–c on p. 87). Of the two movements, one is always subordinate to the other, and it must therefore be determined which is the primary, which the secondary direction imparted to the work (p. 108). But, according to the author, the composite rendering of double movement never points in the same direction (p. 114).

Beyond the sheer observation of the phenomenon, it is however important to establish the reasons for its occurrence, especially when it is detected in fragments rather than in fully preserved figures. The author reaches different conclusions, according to the case. In one instance, a head with double movement – the so-called Wix Head in Copenhagen, from Thasos – is attributed to a sphinx facing sideways; the wider, more slanted left half corresponds to a left turn toward the 'human' (or more expanded) chest; the narrower but protruding right half corresponds to a right turn toward the animal chest, as seen from directly opposite the seated sphinx (cf. figs. 22 and 24, on pp. 80 and 82 respectively). In a second instance, a male head in Kansas City is attributed to a kouros with left leg forward but right orientation of its plinth in respect to its base. The theory is verified against Delphi 2696, a headless torso without lower legs. The split in directions is especially noticeable in the contour of its waist, and the piece is therefore attributed to the base Delphi 2278, inscribed by the children of Charopinos the Parian. This base preserves two feet in oblique placement toward proper right, which are thus compatible with the above-mentioned torso. By contrast, a smaller torso fragment, Delphi 4859, which could conceivably have been connected with the same base, is considered incompatible because it incorporates only single movement, to its proper left.

These observations lead to further conclusions: that a kouros in simple direction to proper left has its head displaced toward that same side, in relation to its central axis, while a kouros with left leg advanced but set diagonally on its base, so as to face proper right (and therefore in double movement), has its head set straight forward in relation to the axis of its stride (cf. fig. 33a–b and p. 112). The rightward positioning with secondary movement to right, according to the author, is the only way in which a kouros, by rule advancing with its left leg, can be made to appear moving in the opposite direction (p. 109, and cf. p. 66 and n. 28). In anticipation of future volumes, she also states that statues of calmly standing deities show one-and-one-half movement: the double direction dictated by their double motif is counterbalanced by 'sacred frontality' (p. 118). Proof for the double movement of sphinx heads will also be furnished in Vol. II 2.

Thus far I have summarized the first part of the book, although occasionally anticipating or correlating points made in the second section. It now remains to review the latter. It is subtitled 'Arbeitsweise und Hilfsmittel', but it is not limited to a survey of the various methods and materials used. Although organized in a logical progression, it is also a quasi-historical account of the phases of the research, explaining how each procedure was developed and why, thus offering the opportunity to reiterate some of the basic concepts expressed in the first section. It is therefore an integral part of the theoretical framework and should be carefully read; it was intended, moreover, as demonstration and vindication of the accuracy of the work as carried out (p. 167), and as such it deserves full attention.

First and fundamental step of the process was the determination of the correct positioning for each piece under examination, not only in its basic and its in-situ orientation, but also in terms of its present display. Since museum works are often subject to changes in installation, each previous appearance was also studied, usually through earlier photographs, and finally casts of the piece were examined in relation to their own positioning and form of display. The use of a wrongly proportioned pedestal, a shift in the correct inclination of a figure, can create problems in the measuring and drawing stages, and had to be assessed

and counterbalanced at once. The remedy, for instance, could lie in the superimposition of an artificial base over the existing one, so that the eye was not distracted by incorrect axes and planes (cf. fig. 35 on p. 129, and pls. 50–51).

Once the compositional coordinates of a piece were determined, close visual observation ensued. This was in turn followed by measurements taken with a plumb line – and here the author explains her choices in weight shapes and methods. Determination of distances could be made with a plain ruler or with a square. Other methods involved contour lines, created around various parts of a figure at predetermined intervals by means of a cord or string. A 'large frame' and a 'small frame' for measuring over-lifesize works or small fragments, such as heads, were adopted in 1968 and 1973 respectively, and their invention, as well as manufacture, is credited to Julian Whittlesey. He was also responsible for developing (in 1969) a large template that enabled contour measurements and reproduction of profiles. Most importantly, the inventor of balloon photography, for which he is best known in archaeological circles, also solved the problem of taking photographs of sculpture from above in such a way as to correct optical distortion (1965–1966). This result was achieved by means of a mirror supported on a weighted rod, which in turn was held by a tripod. When the mirror was placed horizontally above a statue (slightly in front or slightly behind, as the need may be), it reflected an image of the piece which could then be photographed by a camera placed at a relatively low height above the floor. The resultant picture was thus taken from a distance which was the sum of the height of the mirror from the camera and that of the mirror from the sculpture, and was thus much greater than that obtainable by simply placing a camera above the work. Very large or colossal pieces were photographed instead with a mirror placed on the floor and a suspended camera. In either case, the negative thus obtained had to be printed in reverse, to compensate for the mirror-reversal of the reflection and to give the true appearance of the work. This section of the book, the optical principles involved, the diagrams and the explanatory plates make both useful and fascinating reading (pp. 151–158, figs. 41–44, pls. 51–55). Whittlesey himself took 64 photographs, many of which are published in this volume.

One more method used for obtaining the contours of complex surfaces, such as the drapery of korai or the human head, was that of radial measuring. One of its advantages is the clarity of its graphic reproduction, with a central 'island' surrounded by a series of radiating lines at even intervals which combine to create, in negative, a virtual section of the work at given levels. Since each level yields a different contour, the concept of series was introduced, articulated in single sheets, group sheets, and comprehensive sheet ('Gesamtblatt'), onto which all contour lines could be projected, whether taken with the plumb line, the template or the radial system. Certain pieces were examined and reproduced with more than one method – the Wix Head, for instance, which, because of its importance, was measured with the plumb line in 1968, and with the radial system in 1978.

Last but not least – indeed, to give it special prominence through position – the use of the grid is discussed, both as a help to pinpointing asymmetries and for ease in reproduction, although all grids have been eliminated from published illustrations, for greater clarity. The author mentions the two types of graph paper she has used, reproduces them in the last plate, and even provides the address of the supplier in Germany. In this connection, she emphasizes the convenience of measuring in centimeters and millimeters, not because the ancient master used the same unit, but because we can thus best render minute variations (p. 192 and esp. n. 61). This is the single place in her text where the author states that the archaic sculptor did not have a main unit for the rendering of distortions, but no discussion is provided of how these distortions were in fact achieved. We shall return to this point later.

After an explanation on reduction scales (almost never necessary, since contours can easily be reproduced at 1:1 even for large figures, and some pieces in section – e. g., the Dame d'Auxerre – look surprisingly small), the author criticizes other authors' attempts to outline plastic surfaces. She is particularly concerned (pp. 164–165 and ns. 51–52) about L. SCHNEIDER's profiles (Asymmetrie griechischer Köpfe [1973]) which she finds unreadable, because no account has been taken of the direction in-situ, in addition to the basic one. She also objects (pp. 198–199) to photogrammetry, specifically the moiré method (H. DRERUP, Marburger Winckelmann-Progr. 1980, 37–55), because it gives only vertical, not horizontal contours, and is therefore limited to surface relief, not to sections; in addition, only front and back are thus examined, without connection through the sides, and with consequent lack of depth values.

What are the advantages and the results of the author's methods? As she summarizes them (pp. 118–119),

they: (1) allow identification of isolated heads, whether kouros or sphinx, rider or kore (to be discussed in future volumes); (2) clarify the positioning of kouroi, whether in single or in double direction (as, e. g., the Charopinos' kouros); (3) permit association of *disjecta membra* and, in turn, dissociation of *conjuncta membra;* (4) help in the determination of forgeries, when these do not correspond to the compositional principles established for archaic art; the kouros head in New York (inv. 21.88.16, Metropolitan Museum of Art), conversely, is vindicated as ancient by its asymmetries (pp. 197–198).

Potentially more important, to my mind, although more controversial, are other conclusions drawn by the author on the basis of her finds. Since she notes the same rendering of movement in all archaic works, regardless of their dating and geographic distribution, she considers it not the virtuoso achievement of a few gifted masters, but a general practice of the carver's craft, hence not limited to the masterpieces, but shared alike by 'provincial' works. Finding such refinements even in unfinished sculpture, the author attributes them to workshop rules, and therefore defines archaic movement not as individual but as typical (pp. 193–194; cf. also p. 7, where a deeper need and a distinctive creative expression are – dangerously – advocated as lying behind such widespread 'rules'). In her presentation, therefore, she downplays chronology, being content to follow Richter's groupings and generic dates for the kouroi. For the Dame d'Auxerre she gives neither date nor possible origin. In analyzing the Cleveland torso, however, she considers its sharp forms and limited movement as indicative of Attic art, albeit under influence from Cycladic art (p. 61), which allows a greater degree of torsion (p. 33).

The Dame d'Auxerre is usually considered Cretan, therefore from an area of the Greek world that was specifically subject to outside stimuli different from those at work elsewhere – an area that, far from witnessing the birth of Greek monumental sculpture, probably functioned as a cul-de-sac against the spreading of techniques and forms in stone. In addition, some contradiction to Kleemann's formula may be apparent in this case. To be sure, the author's fine analysis of asymmetries in the Louvre statuette (pp. 36–37) is enough to demonstrate their existence, but they imply movement to the proper left. Yet the only motif of the figure is the bending of the right arm, which should perhaps cause distortion in that direction. There is no apparent desire to convey motion in the stance, since both feet are evenly aligned and the block-like skirt precludes any suggestion of striding (although the hem rests unevenly on the feet). Why therefore should the sculptor have carved the statue as if it shared the leftward step of the kouroi? Finally, the size involved is relatively small, the optical refinements proportionately minute, and the material is limestone, different from standard archaic statuary in marble. Should these variables be expected to make a difference?

The very early date of the statuette, earlier than other pieces discussed in Vol. I, may also raise a further question. Optical refinements in architecture were developed gradually, over a lengthy span of time, and retained a certain geographical connotation (e. g., the double corner contraction of Sicilian Doric entablatures). Sculptural refinements, as defined by the author, seem to have existed from the very beginning, with virtually no trial and error. In architecture, the scale involved is large, and a certain unit of measure was employed, whatever its actual dimension. In sculpture, no such unit seems to have been used, nor could it easily be, given the small scale of some examples; yet could the sculptor have intuited the final effect of its creation and produced it free-hand without guidelines?

It could be argued that the very block-like conception of archaic statuary presupposes the use of a proportioning grid, and E. GURALNICK's research has gone a long way toward proving this point (see, e. g., Am. Journal Arch. 89, 1985, 399–409, with previous bibliography). Perhaps these deviations could have been marked on the initial grid, in the reverse process of the author's use of graph paper to bring the asymmetries to light. But nowhere are we given a discussion of the practical process used by the ancient sculptors, and doubts as to their conscious applications of movement formulas therefore remain. Stone, especially hard marble, can easily be miscut, and deviations measurable in millimeters might be meaningless, especially if they occur in works admittedly of average quality, not in the masterpieces. A certain allowance for mistakes should definitely be made. Moreover, the author promises to show that comparable refinements can be found in small bronzes, whose casting process would demand an entirely different construction method from the carving grid.

An additional consideration arises with the preliminary trimming of the block in the quarry. To what an extent was the positioning of a kouros – whether in single movement or in oblique placement on its base – already determined at that time? Was the workshop responsible for the statue also responsible for the base

and the setting up within the sanctuary? Or was the ultimate placing of the figure determined ad hoc, when the need occurred, on a 'first come-first served' basis, as usually believed?

To be sure, the task of the researcher requires first the pinpointing of the phenomenon, and carries no real obligation to reconstruct the procedure employed. The author has shown that a remarkable degree of consistency prevails in the rendering of asymmetries during archaic times, and it may be left to others to explain the how and why of the process. I have more readily believed Schneider's theory of intentional facial distortion because he detected uneven application at first, and regular use beginning only with the Severe period, that is, a time of great international contacts and exchanges. For all the author's accuracy and corroborative checking (occasionally with the help of a second person: pp. 161–163), a certain amount of subjective 'translation' inevitably occurs in taking dimensions and recording contours. When millimeters are involved, a cast may be an unreliable medium, albeit a faithful reproduction of the original in other respects – a stricture which could be levelled also at Schneider's research, largely conducted on casts (although see Kleemann's defense, p. 10). More advanced methods of photogrammetry now produce all-around pictures, and may eventually be considered more accurate, insofar as they eliminate the human intermediary. A good example are the recent photogrammetries of the Riace Warriors as published, in dramatic white on black, by C. SENA, Due bronzi da Riace. Boll. d'Arte, serie speciale 3, 1984, 227–229 and pls. 35–44. The system used is called Orthocomp Z2 Zeiss; 'elevation lines' are plotted also for the sides, and further information is provided by lengthy tables of measurements and the horizontal contours of the two faces (on p. 211). Even complex draped figures can be illustrated with photogrammetric means: see the voluminously dressed Minerva from Toplice (ancient Aquae Iasae) now in the Zagreb Museum, as published by M. KADI in Vjesnik Zagreb, ser. 3, 16–17, 1983–1984, 109–110 pls. 1–4, which include the side views.

There is increasing interest among scholars in the study of contours and their interpretation. Aside from F. HILLER's sections of draped and naked figures (Formgeschichtliche Untersuchungen zu griechischen Statuen des späten 5. Jahrh. v. Chr. [1971]), only briefly mentioned by Kleemann because not specifically meant to investigate movement – p. 165), and from the already considered work by Schneider on asymmetrical heads, facial profiles have also been used by E. B. HARRISON as a help to chronological assessment (in D. KURTZ and B. SPARKES, eds., The Eye of Greece [1982] 56–58; also in C. G. BOULTER, ed., Greek Art, Archaic into Classical [1985] 47 and pl. 47). A template to obtain contours of sculptured heads had already been independently developed by K. J. HARTSWICK for his PhD Dissertation (Roman Copies of Fifth Century Head Types, Bryn Mawr 1984). Such widespread experimentation suggests implicit belief in the potential usefulness of the observations and therefore in the intentional rendering of distortions by ancient masters. All such attempts, however, to my knowledge, have concentrated on the classical period. The author is now bravely shifting the focus to earlier times, and she may well convince us of the correctness of her observations and deductions, when her entire documentation is published. It bears repeating, in fact, that this first volume is only the necessary preliminary for the full presentation to ensue. Yet the archaic period, as I see it, is one of great regional trends and relative isolation, with true sharing of practices and mingling of styles occurring only after the mid-sixth century at the earliest. I may conclude with a few additional questions.

As preliminary demonstration of archaic asymmetries, the author briefly introduces a head from Rhodes in the British Museum, B 326 (pp. 17–20, fig. 1 and pl. 3), described as a kore with single movement to proper left (although cf. n. 13). Yet the peculiar hair part flanked by pincer locks, the carving of the hair in the back, as if it were unreachable or unimportant, the curve of the tresses along the neck on the proper right, the strange heavy-lidded eyes and the enigmatic mouth make me wonder whether the head could belong to a sphinx. That the hair strands bend should imply a sideway turn; yet Kleemann's formula would, in such case, dictate double, not single movement. To what an extent are we justified in subordinating stylistic and iconographic considerations to measurements and a reading of refinements? How can we be certain of what constitutes primary versus secondary movement, especially when dealing with individual fragments separated from their greater whole? It is to be hoped that these and other such questions will be answered in I. Kleemann's future volumes.

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